

The corrections given in the last column are factors by which values in international units are to be multiplied (\times) or divided (\div) to give the corresponding value in absolute units, provided that electrical measurements are involved. Doubtless the list might be considerably extended but enough are reported to illustrate the principles involved.

The international temperature scale.—Measurements on the international temper-

ature scale by the use of electric thermometers are little, if at all, affected by the change in units. Platinum resistance thermometers involve a ratio of resistances. This is obviously dimensionless and independent of the units. Thermocouple measurements are affected only at high temperatures. At the gold point the correction is 4 microvolts and from this corrections at lower temperatures can be estimated.

BOTANY.—*Heliopsis longipes*, a Mexican insecticidal plant species.¹ ELBERT L. LITTLE, JR., U. S. Forest Service.

Heliopsis longipes (A. Gray) Blake (family Compositae), common name "chilcuague," is a Mexican herbaceous plant species of possible commercial value as a source of insecticide. In testing various wild plants for new insecticides during the late war, the Bureau of Entomology and Plant Quarantine, United States Department of Agriculture, found root extracts from this species to have the same order of paralyzing action and toxicity to house flies as pyrethrins and to be toxic also to other insects.

The dried roots without botanical material for identification had been submitted from a Mexican company under the name *Erigeron affinis* DC. (family Compositae), common names "pelitre del país" and "chilcuán." Acree, Jacobson, and Haller (1, 2, 5), of the bureau mentioned, isolated from the roots the toxic principle, which they identified as N-isobutyl-2, 6, 8-decatrienoamide and which they named "affinin," from the reported scientific name. Toxicity tests against house flies, mosquitoes, and other insects were made by McGovran and others (6), of the same bureau. On the basis of these investigations, R. C. Roark (11a), also of this bureau, recently included this species among promising insecticidal plants meriting further research. It seems appropriate, therefore, to report upon the botanical aspects of this insecticide, especially since the scientific

name has been confused and not previously known.

The name *Erigeron affinis* for the samples tested apparently was taken from the reference books on Mexican plant names, useful plants, and medicinal plants by Martínez (7, 8, 9, 10), who also cited older publications. The early physician Dr. Francisco Hernández (1514–1578), in a work first published in 1615, described a plant, "chilmecatl" or "ychcha," the slender roots of which relieved the toothache and other pains (4, pp. 383–384; 15, p. 121). His description, which Martínez referred to *Erigeron affinis*, is not that of *Heliopsis longipes*.

Erigeron affinis was mentioned in 1902 in Noriega's (11, p. 419) Mexican reference on medicinal plants as a substitute for "peritre de Africa," *Anacyclus pyrethrum* DC. and *Anthemis pyrethrum* L., used for rheumatism, neuralgia, toothache, etc., in the following statement (translated from Spanish): "Substituted for it is the root of 'chilcuam' or 'peritre del país,' *Erygeron affinis*, which is abundant in the surroundings of Mexico City and is probably the same root abundant in the Sierra de Querétaro, known by the name of 'chilcuán' and *Spilanthes leccabunga* [beccabunga] DC., found in Tizapán; their properties appear to be identical."

The following year a chemical analysis of the root of chilcuán (*Erigeron affinis*) by Prof. D. Miguel Cordero (14, pp. 237–254) was reported. Escobar (3, 1: 1015, 1194; 3: 93) in his encyclopedia on agriculture mentioned *Erigeron affinis*, with the com-

¹ This study was made while the author was employed in Mexico in 1945 as production specialist (drugs), by the United States Commercial Company, an agency of the United States Government. Received May 25, 1948.